TABLE OF CONTENTS

Section		<u>Title</u>	<u>Page</u>
Chapter 2	Alternatives Inc	cluding the Proposed Action	2.1-1
2.1	National Enviro	onmental Policy Act Guidance for Alternatives	2.1-1
2.2	Background Sp	pecific to Understanding This Federal Action	2.2-1
2.3	Mana gement Po	olicies and Objectives	2.3-1
	2.3.1 Origina	s of U.S. Fisheries Policy	2.3-1
	2.3.2 Curren	at Federal Statutes and Mandates	2.3-3
	2.3.3 Future	Mana gement Tools and Measures	2.3-15
2.4	The Programm	atic Alternatives	2.4-1
	2.4.1 Alterna	ative 1 (No Action): Continue with Existing Management Policy	2.4-1
	2.4.1.1	Fisheries Management Plan Policy Statements, Goals,	
		and Objectives	2.4-2
	2.4.1.2	Recent Federal Actions	2.4-5
	2.4.2 A New	v Policy Framework: The Common Denominator Among Alternatives	
	to the	Status Quo	2.4-13
	2.4.3 Alterna	ative 2: Adopt a New Fisheries Management Policy Framework that	
	Empha	asizes Increased Protection to Marine Mammals and Seabirds	2.4-13
	2.4.4 Alterna	ative 3: Adopt a New Fisheries Management Policy Framework that	
	Empha	sizes Increased Protection to Target Groundfish Species	2.4-14
	2.4.5 Alterna	ative 4: Adopt a New Fisheries Management Policy Framework that	
	Empha	sizes Increased Protection to Non-Target and Forage Species	2.4-16
	2.4.6 Alterna	ative 5: Adopt a New Fisheries Management Policy Framework that	
	Empha	asizes Increased Protection to Habitat	2.4-17
	2.4.7 Alterna	ative 6: Adopt a New Fisheries Management Policy Framework that	
	Empha	asizes an Increase in Socioeconomic Benefits	2.4-18
2.5	Agency's Prefe	erred Alternative	2.5-1
2.6	Programmatic	Alternatives Considered But Not Carried Forward	2.6-1
	2.6.1 The No	o Fishing Policy	2.6-1
2.7	The Federal Ac	ction: Alaska Groundfish Fisheries and Their Management	2.7-1
	2.7.1 A Hist	ory of Fisheries Prior to the Fishery Conservation and	
	Manag	gement Act	2.7-1
	2.7.1.1	The Earliest Fisheries	2.7-1
	2.7.1.2	2 Early Fisheries Management	2.7-2
	2.7.1.3	B Development of Alaska Groundfish Fisheries After	
		World War II	2.7-4
	2.7.1.4	Post-World War II Fisheries Management Regimes	2.7-14
	2.7.2 Evolut	ion of Fishery Management Plans	2.7-18
	2.7.2.1	Fishery Management Plans	2.7-18
	2.7.2.2		
	2.7.2.3		
	2.7.2.4	1977 Preliminary Groundfish Fishery Management Plans	2.7-29
	2.7.2.5	The state of the s	
	2.7.2.6	·	
	2.7.2.7		
	2.7.2.8		
	2.7.2.9	<u> </u>	

TABLE OF CONTENTS

(Cont.)

Section			<u>Title</u>	Page
	2.7.3	Stock As	ses sments for Alas ka Groundfish Stocks	. 2.7-55
		2.7.3.1	Stock Assessment Modeling	. 2.7-55
		2.7.3.2	Independent Resource Surveys	. 2.7-59
	2.7.4	Derivatio	on of Overfishing Level and Acceptable Biological Catch	
		2.7.4.1	Acceptable Biological Catch	. 2.7-72
		2.7.4.2	Overfishing	. 2.7-72
	2.7.5	Specifica	tion of Total Allowable Catch	. 2.7-74
		2.7.5.1	Annual Promulgation of TAC	. 2.7-87
		2.7.5.2	Stock Assessment Information	. 2.7-91
		2.7.5.3	Role of Plan Teams, Scientific and Statistical Committee,	
			Advisory Panel, and North Pacific Fishery Management Council,	
			and the Secretary of Commerce in Total Allowable Catch	
			Specifications	. 2.7-91
	2.7.6	Derivatio	n of Minimum Stock Size Threshold	. 2.7-92
	2.7.7	Groundfi	sh Fisheries in the Bering Sea and Aleutian Islands and	
		Gulf of A	daskadaska	. 2.7-94
		2.7.7.1	Mana gement Overview	. 2.7-94
		2.7.7.2	Pollock Fisheries in the Bering Sea and Aleutian Islands	2.7-122
		2.7.7.3	Non-Pollock Trawl Fisheries in the Bering Sea and Aleutian	
			Islands	2.7-130
		2.7.7.4	Fixed-Gear	2.7-148
		2.7.7.5	Pollock Fisheries in the Gulf of Alaska	2.7-155
		2.7.7.6	Non-Pollock Trawl Fisheries in the Gulf of Alaska	2.7-160
		2.7.7.7	Fixed-Gear Fisheries in the Gulf of Alaska	2.7-181
	2.7.8	The Fede	eral Fishery Management Process: A Review of Procedures for	
			Regulating Groundfish Fisheries	2.7-188
		2.7.8.1	Federal Policymaking Under the Magnuson-Stevens Act	2.7-188
		2.7.8.2	Federal Action on Proposed Amendments	2.7-195
		2.7.8.3	Basic Fishery Management Regulations	2.7-199
		2.7.8.4	Groundfish and Prohibited Species Catch Monitoring	
			and In-Season Fishery Management	2.7-205
2.8	Essent	ial Fish Ha	bitat Considerations	
	2.8.1	Magnuso	n-Stevens Act and Interim Final Rule Mandates	2.8-1
	2.8.2	Definition	n of Essential Fish Habitat	2.8-3
	2.8.3	Habitat A	Areas of Particular Concern	2.8-3
		2.8.3.1	Living Substrata in Shallow Water	2.8-5
		2.8.3.2	Living Substrata in Deep Waters	2.8-5
		2.8.3.3	Proposals for Additional Habitat Areas of Particular Concern	
			Protection	2.8-6
2.9	Endan	gered Speci	ies Act Considerations	2.9-1
	2.9.1	Section 7	Consultations	2.9-3
	2.9.2	Cetacean	s	2.9-3
	2.9.3	Steller Se	ea Lion	2.9-5

TABLE OF CONTENTS

(Cont.)

Section	<u>Title</u>			Page
	2.9.4	Pacific Sa	almon	2.9-25
	2.9.5	Seabirds		2.9-32
		2.9.5.1	Short-Tailed Albatross	2.9-32
		2.9.5.2	Spectacled Eider	2.9-50
		2.9.5.3	Steller's Eider	2.9-53
	2.9.6	Leatherba	ack Turtle	2.9-55
2.10) Summ	ary of the C	Comprehensive Fishery Management Plan Biological Opinion	2.10-1
2.1	1 Marine	e Mammal 1	Protection Act Considerations	2.11-1

TABLES

- Table 2.7-1 Groundfish and Squid Catches in the Eastern Bering Sea, 1954–1999, Blended Statistics in Metric Tons
- Table 2.7-2 Groundfish and Squid Catches in the Aleutian Islands Region, 1962–1999, in Metric Tons
- Table 2.7-3 Groundfish Landings in the Gulf of Alaska, 1956–1999, in Metric Tons
- Table 2.7-4 Annual Catch Quotas for the Japanese Groundfish Fishery off Alaska Pursuant to U.S.–Japan Bilateral Agreement for 1975–1976, in Metric Tons
- Table 2.7-5 Annual Catch Quotas for the U.S.S.R. Groundfish Fishery off Alaska Pursuant to the U.S.-U.S.S.R. Bilateral Agreement for 1975–1976, in Metric Tons
- Table 2.7-6 Brief History of Fisheries Management Measures
- Table 2.7-7 Groundfish Trawl and Longline Closure Areas in the Bering Sea and Aleutian Islands and Gulf of Alaska, 1976, Based on Bilateral Agreements
- Table 2.7-8a Groundfish Trawl and Longline Closure Areas in the Bering Sea and Aleutian Islands and Gulf of Alaska, 1977–1987, Based on Fishery Management Plans and Amendment Regulations and Closures
- Table 2.7-8b Groundfish Trawl and Longline Closure Areas in the Bering Sea and Aleutian Islands and Gulf of Alaska, 1988–1998
- Table 2.7-9 Methods Used to Update Annual Stock Assessments for Alaska Groundfish, 1999
- Table 2.7-10 Survey Coefficient of Variation and Survey Frequency by Species and Species Groups
- Table 2.7-11 Stock Assessment Survey Strategy for the Gulf of Alaska and Bering Sea and Aleutian Islands Groundfish Resources Based on the 1999–2000 Biennial Cycle
- Table 2.7-12 Common and Scientific Names and Management Categories of Fish Species Likely To Be Taken in the Groundfish Fishery
- Table 2.7-13 Interim Total Allowable Catch; Final Acceptable Biological Catch, Total Allowable Catch, and Overfishing Level Amounts; and Actual Harvest for the Bering Sea and Aleutian Islands Management Area, 1999, in Metric Tons
- Table 2.7-14 Interim Total Allowable Catch and Final Acceptable Biological Catch, Total Allowable Catch, and Overfishing Level Amounts for the Gulf of Alaska Management Area, 1999, in Metric Tons
- Table 2.7-15 Interim Total Allowable Catch; Final Acceptable Biological Catch, Total Allowable Catch, and Overfishing Level Amounts; and Actual Harvest for the Bering Sea and Aleutian Islands Management Area, 2000, in Metric Tons

TABLES (continued)

Table 2.7-16	Interim Total Allowable Catch and Final Acceptable Biological Catch, Total Allowable Catch, and Overfishing Level Amounts for the Gulf of Alaska Management Area, 2000, in Metric Tons
Table 2.7-17	Steps and Time Line for Annual Total Allowable Catch Specifications and Prohibited Species Catch Limit Rules
Table 2.7-18	Summary Counts of Current License Limitation Program Groundfish License Area Endorsements by Operation Type, Designation, and Interim/Non-Interim Status
Table 2.7-19	Regulatory Allocations of Total Allowable Catch Specifications that Apply to the Bering Sea and Aleutian Islands Fishery Management Unit in 2000
Table 2.7-20	Regulatory Allocations of Total Allowable Catch Specifications that Apply to the Gulf of Alaska Fishery Management Unit
Table 2.7-21	Bering Sea and Aleutian Islands Maximum Retainable Bycatch Amounts, Expressed as Percentages
Table 2.7-22	Gulf of Alaska Maximum Retainable Bycatch Amounts, Expressed as Percentages
Table 2.7-23	Acceptable Biological Catch, Total Allowable Catch, Initial Total Allowable Catch, Community Development Quota Program Reserve Allocation, and Groundfish Overfishing Levels in the Bering Sea and Aleutian Islands Area, 2000, in Metric Tons
Table 2.7-24	Prohibited Species Bycatch Allowances for the Bering Sea Aleutian Islands Trawl and Nontrawl Fisheries, 2000
Table 2.7-25	Acceptable Biological Catch, Total Allowable Catch, Pacific Cod Initial Total Allowable Catch, and Groundfish Overfishing Levels for the Western/Central/West Yakutat, Western, Central, Shelikof Strait, and Eastern Regulatory Areas, and in the West Yakutat, Southeast Outside, and Gulfwide Districts of the Gulf of Alaska, 2000, in Metric Tons
Table 2.7-26	Final Pacific Halibut Prohibited Species Catch Limits, Allowances, and Apportionments for the Gulf of Alaska, 2000, in Metric Tons
Table 2.7-27	Bering Sea and Aleutian Islands Groundfish and Prohibited Species Harvest by Target Species and Gear Type, 1999, in Metric Tons
Table 2.7-28	Gulf of Alaska Groundfish and Prohibited Species Harvest by Target Species and Gear Type, 1999, in Metric Tons
Table 2.7-29	Number of Vessels that Caught Groundfish off Alaska by Area and Catcher Category, 1995–1999
Table 2.7-30	Number of Hook-and-Line Vessels that Caught Groundfish off Alaska by Area, Catcher Category, and Target, 1995–1999

TABLES (continued)

Table 2.7-31	Number of Pot Gear Vessels that Caught Groundfish off Alaska by Area, Catcher Category, and Target, 1995–1999
Table 2.7-32	Number of Trawl Vessels that Caught Groundfish off Alaska by Area, Catcher Category, and Target, 1995–1999
Table 2.7-33	Sector-Specific Bering Sea Subarea Pollock Total Allowable Catch Allocation Procedures Using a Hypothetical Bering Sea Subarea Pollock Total Allowable Catch of 1 Million Metric Tons
Table 2.7-34	Steller Sea Lion Protection Areas in the Bering Sea
Table 2.7-35	Bering Sea Subarea Pollock Fishing Seasons for All Sectors
Table 2.7-36	Bering Sea Subarea Apportionments of Pollock Direct Fishing Allowance in Percent by Season and Area
Table 2.7-37	Pollock Catch by Area in the Bering Sea Subarea, 1999, in Metric Tons and Percentages
Table 2.7-38	Pollock Catch Within the Steller Sea Lion Conservation Area, 1999, Listed as a Percentage of Each Sector's Catch
Table 2.7-39	Bering Sea Pollock Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-40	Bering Sea and Aleutian Islands Pacific Cod Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-41	Bering Sea Atka Mackerel Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-42	Bering Sea Rock Sole/Flathead Sole/Other Flatfish Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-43	Bering Sea Yellowfin Sole Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-44	Bering Sea Greenland Turb ot Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-45	Bering Sea Rockfish Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-46	Bering Sea Sablefish Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-47	Bering Sea Other Species Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-48	Number, Mean Length, and Mean Net Tonnage of Vessels (Excluding Catcher/ Processors) that Caught Groundfish off Alaska by Area, Vessel Length Class, and Gear, 1995–1999
Table 2.7-49	Gulf of Alaska Pollock Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-50	Steller Sea Lion Protection Areas in the Gulf of Alaska

TABLES (continued)

Table 2.7-51	Gulf of Alaska Pacific Cod Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-52	Gulf of Alaska Deep Water Flatfish Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-53	Gulf of Alaska Rex Sole Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-54	Gulf of Alaska Shallow Water Flatfish Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-55	Gulf of Alaska Arrowtooth Flounder Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-56	Gulf of Alaska Rockfish Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-57	Gulf of Alaska Other Species Harvest by Target and Gear Type, 1999, in Metric Tons
Table 2.7-58	Summary Counts of Current License Limitation Program Groundfish License Area Endorsements by Operation Type, Designation, and Interim/Noninterim Status
Table 2.7-59	Permits and Programs
Table 2.7-60	Federal Fishing Permits Required, 1999
Table 2.7-61	Source of Data for Community Development Quota Catch Accounting by Quota Category, Gear Type, and Vessel Category
Table 2.7-62	Regulations Regarding Accrual of Prohibited Species Bycatch Against Prohibited Species Quotas in the Community Development Quota Fisheries, by Species, Gear, Area, Season, and Target Fishery (as of May 31, 2000)
Table 2.9-1	Species Listed as Endangered or Threatened Under the Endangered Species Act and Occurring in the Gulf of Alaska and/or Bering Sea and Aleutian Islands Groundfish Management Areas, 2000
Table 2.9-2	Salmon Species, Stocks, or Evolutionarily Significant Units Listed or Pending Under the Endangered Species Act
Table 2.9-3	Short-Tailed Albatross Reported Takes in Alaska Fisheries
Table 2.9-4	NMFS Seabird Avoidance Requirements Under the Endangered Species Act
Table 2.9-5	Conservation Recommendations Regarding Seabirds and Groundfisheries
Table 2.9-6	Timeline of NMFS Alaska Region Seabird Activities and Related Seabird Issues, as of May 30, 2000

Table 2.11-1	Marine Mammal Protection Act and Endangered Species Act Listing Status of Marine Mammal Stocks Categorized as Strategic in Alaska
Table 2.11-2	Marine Mammal Species Killed or Seriously Injured Incidental to Commercial Fishing Operations
Table 2.11-3	Incidental Mortality and Serious Injury to Marine Mammal Species (and Stocks) by the Bering Sea/Aleutian Islands Groundfish Trawl Fishery
Table 2.11-4	Incidental Mortality and Serious Injury to Marine Mammal Species (and Stocks) by the Bering Sea/Aleutian Islands Groundfish Longline Fishery
Table 2.11-5	Incidental Mortality and Serious Injury to Marine Mammal Species (and Stocks) by the Gulf of Alaska Groundfish Trawl Fishery
Table 2.11-6	Incidental Mortality and Serious Injury to Marine Mammal Species (and Stocks) by the Gulf of Alaska Groundfish Longline Fishery
Table 2.11-7	Incidental Mortality and Serious Injury to Marine Mammal Species (and Stocks) by the Bering Sea/Aleutian Island and Gulf of Alaska Groundfish Pot Fisheries

FIGURES

Figure 2.7-1	Alaska groundfish harvest.
Figure 2.7-2	Restrictions and privileges applicable to Japanese groundfish fisheries off Alaska in 1975 and 1976 under the U.S.–Japan fisheries agreement of December 1974.
Figure 2.7-3	Restrictions and privileges applicable to Soviet groundfish fisheries off Alaska in 1975 and 1976 under the U.SU.S.S.R. fisheries agreement of July 1975.
Figure 2.7-4	Provisions of the U.S.–Republic of Korea fisheries agreement of November 1972, effective through December 12, 1977.
Figure 2.7-5	Restrictions placed on Polish groundfish fisheries off Alaska in 1975 by the U.SPoland agreement of 1975.
Figure 2.7-6	Areas closed to trawling by Japanese vessels in eastern Bering Sea, December 1, 1974, to December 31, 1975, under domestic regulations of Japan.
Figure 2.7-7	Restrictions on domestic and foreign fishing for groundfish in two areas in the eastern Bering Sea.
Figure 2.7-8	Kodiak Island nonpelagic trawl gear closures.
Figure 2.7-9	Crab and halibut protection zones.
Figure 2.7-10	Alaska groundfish biomass and catch.
Figure 2.7-11	Steller sea lion protection areas.
Figure 2.7-12	Bristol Bay red king crab savings area.
Figure 2.7-13	Chinook salmon savings area.
Figure 2.7-14	Station pattern for annual Bering Sea crab-groundfish bottom trawl survey.
Figure 2.7-15	Aleutian Islands bottom trawl survey station locations.
Figure 2.7-16	Gulf of Alaska bottom trawl survey station locations.
Figure 2.7-17	Example of a summer acoustic-midwater trawl survey pattern for pollock, eastern Bering Sea.
Figure 2.7-18	Sablefish longline survey station locations for eastern Bering Sea, Aleutian Islands (eastern half), and Gulf of Alaska management areas.
Figure 2.7-19	Bering Sea and Aleutian Islands statistical and reporting areas.
Figure 2.7-20	Gulf of Alaska statistical and reporting areas.

Figure 2.7-21	Bering Sea and Aleutian Islands management reporting areas.
Figure 2.7-22	Gulf of Alaska reporting areas.
Figure 2.7-23	Bering Sea Steller Sea Lion Conservation Area and pollock no-trawl zones surrounding sea lion rookeries and haulouts (Table 2.7-36).
Figure 2.7-24	Observed distribution of the 1999 Bering Sea pollock trawl fishery.
Figure 2.7-25	Observed haul locations for the Bering Sea and Aleutian Islands and Gulf of Alaska 1998 Pacific cod trawl fisheries.
Figure 2.7-26	Observed haul locations for the Bering Sea and Aleutian Islands 1999 Atka mackerel trawl fishery.
Figure 2.7-27	Observed haul locations for the Bering Sea and Aleutian Islands 1999 rock sole, flathead sole, and other flatfish trawl fishery.
Figure 2.7-28	Observed haul locations for the Bering Sea and Aleutian Islands 1999 yellowfin sole trawl fishery.
Figure 2.7-29	Observed haul locations for the Bering Sea and Aleutian Islands 1999 rockfish trawl fishery.
Figure 2.7-30	Observed sets for the Bering Sea and Aleutian Islands 1999 hook-and-line gear Pacific cod fishery.
Figure 2.7-31	Observed sets for the Bering Sea and Aleutian Islands 1999 pot gear Pacific cod fishery.
Figure 2.7-32	Distribution of fishing effort for Gulf of Alaska pollock in 1999.
Figure 2.7-33	The Shelikof Strait Steller sea lion conservation area in the Gulf of Alaska.
Figure 2.7-34	Observed haul locations for the 1999 Gulf of Alaska trawl fisheries for deep water flatfish, rex sole, and flathead sole.
Figure 2.7-35	Observed haul locations for the 1999 Gulf of Alaska shallow water flatfish trawl fishery
Figure 2.7-36	Observed haul locations for the 1999 Gulf of Alaska trawl fishery for rockfish.
Figure 2.7-37	Areas closed to nonpelagic trawl gear in the Gulf of Alaska.
Figure 2.7-38	Observed set locations for the 1999 Gulf of Alaska sablefish fishery with hook-and-line gear.
Figure 2.7-39	Council process for developing FMP and regulatory amendments

Figure 2.7-40	Secretarial process for review of Council - proposed FMP and regulatory amendments.
Figure 2.9-1	Counts of adult and juvenile Stellar sea lions from late 1950s to 1996.
Figure 2.9-2	Areas designated as critical habitat for Steller sea lions under the Endangered Species Act
Figure 2.9-3	Steller sea lion protection zones, 1991.
Figure 2.9-4	Steller sea lion protection zones, 1992.
Figure 2.9-5	Steller sea lion protection zones, 1993.
Figure 2.9-6	Steller sea lion protection zones, 1999.
Figure 2.9-7	Steller sea lion protection zones, 2000.
Figure 2.9-8	Marine areas of U.S. Fish and Wildlife Service proposed critical habitat for spectacled eider.
Figure 2.9-9	Marine areas in the Bering Sea and Aleutian Islands of U.S. Fish and Wildlife Service proposed critical habitat for Steller's eiders.
Figure 2.9-10	Marine areas in the Kachemak Bay area of U.S. Fish and Wildlife Service proposed critical habitat for Steller's eiders.